L 22646-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k) JD/WH

ACC NR: AP6008690 SOURCE CODE: UR/0131/65/000/011/0027/0032

AUTHOR: Kaynarskiy, I. S.; Degtyareva, E. V.; Orlova, I. G.; Karaulov, A. G.; Gnatyuk, G. Ye.

ORG: Ukrainian Scientific Research Institute of Refractories (Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov)

TITLE: The effect of gamma-Al_2O_3 admixture on the properties of alumina slips, sintering, hardening in annealing, and properties of corundum products

SOURCE: Ogneupory, no. 11, 1965, 27-32

TOPIC TAGS: alumina, corundum, aluminum oxide, corundum ceramic

ABSTRACT: The effect of γ-Al_2O_3 on various properties of slips, on the behavior of castings during annealing, and on the properties of sintered products was studied. The introduction of γ-Al_2O_3 increases the zeta-potential. Recrystallization of active γ-Al_2O_3 at low temperatures followed by conversion of γ-Al_2O_3 to α-Al_2O_3 causes a substantial increase in the strength of the castings in the heated state in the 600-1300°C range as compared to strength of castings without γ-Al_2O_3. The latter decreases the size of corundum crystals in the sintered body, and this raises the strength of corundum ceramics to which MgO had not been added. Shrinkage in castings containing γ-Al_2O_3 becomes more pronounced during annealing and an anisotropy of shrinkage is ob-

UDC: 666.76.022.38

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served. Addition of γ-Al_2O_3 slows down the sintering at about 1500°C; at higher temperatures, the degree of sintering of the castings is only slightly less. Introduction of γ-Al_2O_3 reduces the distortion of alumina castings up to 1450-1470°C but increases it at higher temperatures. The main advantage of γ-Al_2O_3 is that no binder (such as sucrose, flour, etc.) is needed in the slip, and a considerable strengthening of the heated raw material is obtained. It is desirable to use the γ-Al_2O_3 admixture together with MgO; the latter causes a substantial reduction of open porosity and an increase in the strength of the ceramic. Orig. art. has: 14 figures, 2 tables.

SUB CODE: 11/ SUBM DATE: 00/ ORIG REF: 008/ OTH REF: 000

Card 2/2 HW

GNATYUK, K.S., red.; LEVKOVICH, G.A., red.; NAUMENKO, I.A., red.; PAVLENKO, V.A., kand.sel'skokhoz.nauk, red.; PEREKHREST, S.M., dotsent, red.; PONOMARENKO, A.I., red.; PRAKTENKO, Ye.Ya., red. [deceased]; SMOLYAK, V.V., red.

[Technical information] Tekhnicheskaia informatsiia. Kiev, 1956. 55 p. (MIRA 15:2)

1. Kiyev. Ukrainskiy gosudarstvennyy institut po proyektirovaniyu vodokhozyaystvennykh sooruzheniy i sel'skikh elektrostantsiy.
(Ukraine--Water resources development)

GNATYUK, L.V.

Several features of the economic geography of the city of Odessa.
Geog. i khoz. no.12:55-62 '63. (MIRA 16:12)

FREYDENZON, Ye.Z.; FREYDENZON, Yu.Ye.; KOTSAR', S.I.; [illegible]
Prinimali uchastiye: KAS'YANOVA, K.S.; M[illegible], L.Ya.; [illegible],
T.D.; KOTEL'NIKOVA, Z.G.; VOYLOSHNIKOVA, A.I.; [illegible], P.S.;
GNATYUK, P.I.; MYKOL'NIKOV, A.A.; MURKSER, A.Yu.; [illegible], [illegible];
OGORODNIKOV, G.K.

Developing an efficient shape for slab ingots. Stal' 25 no.6:
539-543 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Ye. Freydenzon,
Yu. Freydenzon, Kotsar', Zatulovskaya).

MARKOVA, L.P.; GNATYUK, R.A.

Reservoir properties of pliocene rocks of the Balkhan Depression in southwestern Turkmenistan. Izv.AN Turk.SSR no.6:19-27 '59. (MIRA 13:5)

1. Turkmenskiy filial Vsesoyuznogo neftegazovogo nauchno-issledovatel'skogo instituta.
(Turkmenistan--Rocks--Permeability)

BLOKH, G.S.; ZABREBNEVA, A.V.; ZUBAREV, K.A.; PECHURO, S.S.; TVOROGOVA, Ye.L.; GNATYUK, T.A.

Producing gypsum fiber sheets on round-screen sheet-making machines. Stroi. mat. 8 no.2:15-17 F '62. (MIRA 15:3)
(Gypsum products)

9(6)

SOV/146-2-5-8/19

AUTHORS: Ornatskiy, P.P., Candidate of Technical Sciences, Docent; Ogorelin, M.A., Engineer; Polishchuk, Ye.S., Candidate of Technical Sciences; Gnatyuk, V.S., Engineer

TITLE: A Miniature Monophase Ferrodynamic 1.5 Class Phase Meter

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Priborostroyeniye, 1959, Nr 5, pp 54-57 (USSR)

ABSTRACT: With the cooperation of the "Tochelektropribor" Plant a portable phasemeter was developed by the Chair of Measuring Devices at the Kiyev Polytechnic Institute Order of Lenin. The device is illustrated by a diagram (Figure 1) and a photograph (Figure 3), and the authors discuss its working principle and design. Errors due to temperature changes of $\pm 10^{\circ}$C and frequency variations of $\pm$ 2% do not exceed 1.5%. This phasemeter was demonstrated at the International Exhibition in

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GNATYUK, Ye., kand.tekhn.nauk

Thirtieth anniversary of the Siberian Institut of Automotive Transport and Roads. Avt.transp. 39 no.2:52 F '61. (MIRA 14:3)

1. Dekan mekhanicheskogo fakul'teta Sibirskogl avtomobil'no-doroshnogo intituta.
(Siberia--Highway transport workers--Education and training)

TAKTASHEV, A., prepodavatel'; ROMADIN, V., prepodavatel'; GNATYUK, Ye., kand. tekhn. nauk, dotsent; KOLESNIK, P., dotsent

Training of specialists. Avt. transp. 41 no.6:52-54 Je '63. (MIRA 16:8)

1. Astrakhanskiy avtodorozhnyy tekhnikum (for Taktashev, Romadin). 2. Zamestitel' dekana transportnogo fakul'teta Moskovskogo inzhenerno-ekonomicheskogo instituta imeni Ordzhonikidze (for Kolesnik).

GNATYUK, Ye. V.

"Investigation of the possibility of reducing the dilution of crankcase oil in carburetor engines." Author's abstract of a dissertation defended at Omsk Agricultural Inst imeni S. M. Kirov. Omsk, 1956. (DISSERTATION For the Degree of Candidate in TECHNICAL SCIENCE.)

Knizhnaya letopis'
No 33, 1956, Moscow

S/081/62/000/002/037/107
B151/B108

AUTHOR: Gnauck, G.

TITLE: Some problems in the analysis of inert gases

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1962, 156, abstract 2D123 (Acta chim. Acad. scient. hung., v. 27, nos. 1 - 4, 1961, 229 - 237)

TEXT: For absorbing N_2 from the residual gas in apparatus of the Ors type the use of Li instead of Ca is recommended (Li activated by the addition of K is especially effective). A disadvantage of this method is the action of the Li on glass and quartz. There is a short description of an analyzer for determining He in natural gas, based on the adsorption of other gases by silica gel, cooled with liquid N_2. Methods of analysis of mixtures of inert gases using spectroscopy, interferometry, and density measurement are discussed. The best results are given by gas chromatography. Using a 5A molecular sieve at 22 - 24° in a 1 m long column all the inert gases are separated except He and Ne (carrier gas H_2). In an

Card 1/2

GNEDASH, A.

New accounts plan in automotive transportation. Bukhg.uchet 16 no.2: 15-16 F '57. (MLRA 10:2)

(Transportation, Automotive--Accounting)

Q-2

GNEDASH, B.M.

USSR / Farm Animals. Cattle.

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54758.

Author : Gnedash, B. M.
Inst : ~~Not given.~~
Title : The Raising of Supernumerary Young Cattle with a View to Complement Dairy Livestock.

Orig Pub: Byul. sil's'kogospod. inform. Zhitom. obl. vid. t-va dlya poshir. polit. ta nauk. znan', 1957, No 3, 80-83.

Abstract: No abstract.

Card 1/1

VINNICHENKO, Nikolay Gavrilovich,; GNEDASH, Grigoriy Nikitin,; SMAGLOVA, Anna Grigor'yevna,; KRISHTAL', L.I., red.; BOBROVA, Ye.N., tekhn. red.

[Accounting for the principal operations of railroads] Bukhgalterskii uchet osnovnoi deiatel'nosti zheleznykh dorog. Moskva, transp. zhel-dor. izd-vo, 1958. 396 p. (MIRA 11:11)

(Railroads--Accounting)

MITROFANOV, V.M.; POLIKARPOV, A.P.; GHEDASH, G.N., red.; KRISHTAL', L.I., red.; KHITROV, P.A., tekhn.red.

[Bookkeeping and economic analysis of the operations of a locomotive depot] Bukhgalterskii uchet i analiz khoziaistvennoi deiatel'nosti lokomotivnykh depo. Moskva, Gos.transp.zhel-dor. izd-vo, 1959. 198 p. (MIRA 13:1)
(Railroads--Repair shops)

KAMSKOV, Yermolay Simonovich; GNEDASH, G.N., retsenzent; KRISHTAL', L.I., red.; BOBROVA, Ye.N., tekhn. red.

[Principles of accounting and analysis in railway economic units] Osnovy bukhgalterskogo ucheta i analiza v khozedinitsakh zheleznykh dorog. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 99 p. (MIRA 14:10)
(Railroads—Accounts, bookkeeping, etc.)

BABELYAN, V.B.; VINNICHENKO, N.G., kand. ekon. nauk; GNEDASH, G.N.; GRIGOR'YEV, A.N.; DANILOV, N.K.; IVANOV, A.F.; IVLIYEV, Ivan Vasil'yevich; POTAPOV, I.A.; TRUBNIKHIN, M.G., kand.ekon. nauk; TUKHOVITSKAYA, L.K., inzh.; TYVANCHUK, D.P., inzh.; SHERMAN, A.Ya.; SHCHERBAKOV, P.D., inzh.; EVENTOV, G.S.; KRISHTAL', L.I., red.; MAKUNI, Ye.V., tekhn. red.

[Financing in railway transportation; manual] Finansirovanie na zheleznodorozhnom transporte; spravochnik. Pod obshchei red. I.V. Ivlieva. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1962. 422 p. (MIRA 15:4)
(Railroads—Finance)

VINNICHENKO, N.G.; GNEDASH, G.N.; SMAGLOVA, A.G.; OSHEMKOV, N.P., retsenzent; KRISHTAL', L.I., red.; DROZDOVA, N.D., tekhn. red.

[Accounting for the basic operations of railroads] Bukhgalterskii uchet osnovnoi deiatel'nosti zheleznykh dorog. Izd.2., perer. Moskva, Transzheldorizdat, 1963. 309 p. (MIRA 16:7)

(Railroads--Accounting)

GNEDASH, T. K.

"Plasma Therapeutics of Surgical Diseases," Trudy Kiyevskogo Instituta Perelivaniya Krovi, Kiev, 1952, vol. 1.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615510008-5"

GNEDASH, Timofey Konstantinovich; GRINBERG, Yefim Abramovich; BOGOMOLETS, O.A., redaktor; GITSHTEYN, A.D., tekhnicheskiy redaktor

[Concise manual on transfusion of blood and its component parts] Kratkoe posobie po perelivaniiu krovi i ee otdel'nykh komponentov. Kiev, Gos.med.izd-vo USSR, 1955. 243 p. (MIRA 9:2)
(BLOOD--TRANSFUSION)

GANDACH, T. K.

"An Experiment to Use Albuminous Blood Substitutes derived from Heterogenic Blood," Trudy VIII S"ezda Khirurgov USSR Ukrainina SSR, Kiev, 1955,

GNEDASH, T.K.

Use of heterogenous BK-8 blood plasma substitute. Akt.vop.perel.krovi no.7:350-352 '59. (MIRA 13:1)

1. Kiyevskiy institut perelivaniya krovi i neotlozhnoy khirurgii.
(BLOOD PLASMA SUBSTITUTES)

GNEDASH, Yu. T.

Cand Med Sci - (diss) "Course of the injury process in acute radiation illness under conditions of the use of protein blood substituents. (Experimental study)." Kiev, 1961. 29 pp; (Kiev Order of Labor Red Banner Med Inst imeni A. A. Bogomolets); number of copies not given; free; (KL, 7-61 sup, 257)

S/896/62/000/004/001/001
A066/A126

AUTHOR: Gnedash, Yu. T., Candidate of Medical Sciences, Surgeon-Major

TITLE: Wound healing in acute radiation disease treated with proteic blood substitute (experimental investigation)

SOURCE: Kiyev. Okruzhnoy voyennyy gospital'. Sbornik nauchnykh rabot, no. 4, 1962, 19 - 39

TEXT: The effect of the proteic blood substitute БК-8 (BK-8) on wound healing processes was studied in chinchilla rabbits exposed to overall irradiation in X-ray doses of 600 and 1,000 r. Characteristics of BK-8: protein content, 4.0 - 4,2%; specific gravity, 1.024; pH = 7.4 - 7.6; residual N = 25 - 45 mg%; relative viscosity, 1.4 - 1.6; colloid-osmotic pressure, 250 - 260 mm water column; administration, 7.5 ml per kg one hour after irradiation and subsequently every five days. The 2.5 x 2.5 cm excision cut out in the lumbar region reached down to the perinephric fat. The investigations included the influence of different doses on wound healing, the potential effect of BK-8 on the radiation disease, and the effect of BK-8 on wound healing. The tests were

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carried out in five series: 1) controls (non-irradiated, operated); 2) 600 r, operated, not treated; 3) 1,000 r, operated, not treated; 4) 600 r, operated, treated; 5) 1,000 r, operated, treated. Results: the reaction occurring after irradiation developed in four stages: primary general reaction, latent period, febrile period, and restoration. A primary reaction lasting 30 min to 48 hrs was observed in each series, but as to the further development of the disease, three (600 r) and two (1,000 r) groups could be differentiated according to clinical, hematological, and histological observations. In the first group (slight radiation disease), the ratio of treated to untreated animals was 2:1. In the second group (moderate radiation disease), the latent and clinical stages were retarded in the case of rabbits treated with BK-8. In the third group (serious radiation disease), the latent stage was absent, and the survival rates of treated and untreated animals differed greatly. Animals irradiated with 1,000 r could be divided into two groups, which were almost consistent with the second and third groups after 600-r irradiation. The lifetime of animals treated with BK-8 doubled after irradiation, and their survival rate trebled as compared to that of untreated rabbits in these groups. The hemoglobin content and the number of thrombocytes and erythrocytes in all animals treated with BK-8 decreased more

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gradually. This process was accompanied by quicker restoration. Leucopenia was less marked and lasted shorter; the original leucocyte level was again reached sooner and was followed by leucocytosis. Thus, the administration of BK-8 stimulated not merely the hemopoietic system but the entire organism. The radiation disease was the more serious, the slighter the leucocytosis during the primary reaction. Wound healing in series 4) and 5) was much better than in 2) and 3) but worse than in 1). A detailed histological description based on examinations at short intervals is given for all groups. In the two series of untreated rabbits, regressive changes depending on the seriousness of the disease predominated in the granulation tissue. Reparative processes set in only after the end of the disease and were the more vigorous, the stronger the effect of irradiation. The number of leucocytes in the wounds of animals treated with BK-8 increased rapidly, giving rise to phagocytosis. Wound infections diminished, and thus the healing conditions improved considerably.

Card 3/3

GNEDASH, Yu.T. [Hniedash, IU.T.]

Course of the wound process during acute radiation sickness under the conditions of protein blood substitute application. Fiziol. zhur. [Ukr.] 9 no.4:512-519 Jl-Ag '63.

(MIRA 17:10)

1. A.A. Bogomoletz Institute of Physiology of the Academy of Sciences of the Ukrainian S.S.R., Kiev, and Kiev Military Hospital.

GHEDASH, Yu. T. "Wound Processes During Acute Radiation [illegible] and the Use of Protein Blood Substitutes." BK-8 blood-substitute transfusion did not significantly alter wound processes during acute radiation sickness.

Me[illegible] radiology [illegible] 7, 1964.

GNEDENKO, B. V.

"On the Limited Laws of the Theory of Probabilities," Dokl. AN., 23, No. 9, 1939.

Inst. of Math., Univ. of Moscow.

GNEDENKO, B. V.

"On The Domains of Attraction of Stable Laws," Dokl. AN., 24, No. 7, 1939.

GNEDENKO, B. V.

"Limit Theorems for the Maximal Term of a Variational Series," Dokl. AN., No. 1, 1941.

Steklov Inst. of Math., Ac. of Sciences UssR.

GNEDENKO, B. V.

"Contribution to a Theory of Geiger-Müller Counters," Zhur. Eksper. i Teoret. Fiz., 11, No. 1, 1941. Moscow.

GNEDENKO, B. V.

"On Locally Stable Probability Distributions," Dokl. AN., 35, No. 9, 1942.

Math. Inst.; Moscow State Univ.

GN DENKO, B. V.

"Investation of the Growth of Homogenous Random Processes with Inde endent Icrements," Dokl. AN., 36, No. 1, 1942.

Math. Inst. Moscow Univ.

GNEDENKO, B. V.

"On the Growth of Homogeneous Random Processes with Independent Signle-Type Increments," Dokl. AN., 40, No. 3, 1943.

Inst. Math., Moscow State Univer.

GNEDENKO, B. V.

"On the Iterated Logarithm Law for Homogeneous Random Processes with Independent Increments," Dokl. AN., 40, No. 7, 1943.

Math, Inst., Moscow Univer.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615510008-5"

GNEDENKO, B. V.

RT-1390 /Limit theorems for sums of independent random variables/ Predel'nye zakony dlia summ nezavisimykh sluchainykh velichin.
Uspekhi Matematicheskikh Nauk, 10: 115-165, 1944

Also appeares in Dokl AN., 22, No. 2, 1939.

GNEDENKO, B.V.

Aleksandrov, P.S., Gnedenko, B.V., and Stepanvov, V.V., "Mathematics in Moscow University during the 20th century (until 1940)", In the collection: Ist.-matem. issledovaniya, Issue 1, Moscow, 1948, p. 9-42.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 9, 1949)

GNEDENKO, B.V.

Gnedenko, B. V. The development of the theory of probability in Russia. Akad. Nauk SSSR. Trudy Inst. Istorii Estestvoznaniya 2, 390-425 (1948). (Russian)

Source: Mathematical Reviews, Vol 11 No. 3

GNEDENKO, B.V.; HVACHOVA, K.L.

One characteristic property of the normal law of distribution.
Dop.AN URSR no.3:3-5 '48. (MIRA 9:9)

1.Diysniy chlen AN URSR (for Gnedenko). 2.L'vivs'kiy viddil Institutu matematiki Akademii nauk Ukrains'kei RSR.
(Distribution (Probability theory))

GNEDENKO, B. V.

USSR/Mathematics - History Mar/Apr 1948

"Concerning B. V. Gnedenko's Book 'Essays on the History of Mathematics in Russia' and N. I. Akhiyezer's Criticism of This Book," P. S. Aleksandrov, 4 pp
Uspekhi Matemat Nauk, Vol. 3, No 2, (24).

Exposition of history of mathematics in Russia, treated in such a manner as to be intelligible to higher classes in schools. Aleksandrov reviews it favorably and disagrees with Akhiyezer's chief criticism viz. that only one theory of probability is described.

69T63

GNEDENKO, B.V.

Gnedenko, B. V. On a local limit theorem of the theory of probability. Uspehi Matem. Nauk (N.S.) 3, no. 3(25), 187–194 (1948). (Russian)

Let $\xi_1, \xi_2, \cdots$ be mutually independent random variables with a common distribution. It is supposed that the ξ_j's assume only integral values and have finite second moments. It is proved that under these hypotheses

$$\lim_{n\to\infty} [n^{\frac{1}{2}} \Pr\{\xi_1+\cdots+\xi_n=k\} - w_{nk}] = 0$$

uniformly in k if and only if 1 is the highest common factor of the values assumed with positive probability by the ξ_j's. Here w_{nk} is the value (Gaussian density) suggested by the central limit theorem. Previously van Kampen and Wintner [Amer. J. Math. 61, 965–973 (1939); these Rev. 1, 63] obtained weaker results in that in their work $k = cn^{\frac{1}{2}} + o(n^{\frac{1}{2}})$, but treated multidimensional random variables, with no number-theoretic restrictions on the integral values assumed by them. [Cf. the following review.] *J. L. Doob.*

Source: Mathematical Reviews, Vol 10 No. 2

GNEDENKO, B. V.

Gnedenko, B. V. On the theory of growth of homogeneous random processes with independent increments. Akad. Nauk Ukrain. RSR. Zbirnik Prac' Inst. Mat. 1948, no. 10, 60–82 (1948). (Ukrainian. Russian summary)

The principal result is the following: If $\xi(t)$ ($\xi(0)=0$) is a time-homogeneous process with independent increments, then a necessary and sufficient condition for existence of a nondecreasing positive function $u(t)$ such that $\limsup_{t\to\infty}|\xi(t)|/u(t)=a$ is the existence of a number c_0, $\frac{1}{2}a<c_0<2a$, such that $\int_1^\infty \Pr\{|\xi(t)|>cu(t)\}t^{-1}dt$ diverges for $c<c_0$ and converges for $c>c_0$. If $\xi(t)$ is a "stable" process (non-Gaussian) then for every nondecreasing positive $u(t)$ $\limsup_{t\to\infty}|\xi(t)|/u(t)$ is either 0 or ∞. *M. Kac.*

Source: Mathematical Reviews, Vol 12 No. 8

GNEDENKO, B.V.; RVACHEVA, Ye.L.

One characteristic property of the normal law of distribution. Zbir.prats' Inst.mat.AN URSR no.11:36-42 '48. (MLRA 9:9)
(Distribution (Probability theory))

GNEDENKO, B.V.

Gnedenko, B. V. On a theorem of S. N. Bernštein. Izvestiya Akad. Nauk SSSR. Ser. Mat. 12, 97-100 (1948). (Russian)

If a probability distribution in the plane has the property that in two different coordinate systems the coordinates are independent, then the distribution is normal. This generalizes a theorem attributed to S. Bernštein [Trudy Leningrad Politehn. Inst. 3, 21-22 (1941)], to the effect that if X is independent of Y and $X+Y$ independent of $X-Y$, then X and Y are normally distributed. The proof is based on the use of characteristic functions.

W. Feller (Ithaca, N. Y.).

Source: Mathematical Reviews, Vol No.

GNEDENKO, B.V.

*Gnedenko, B. V., and Kolmogorov, A. N. Predel'nye raspredeleniya dlya summ nezavisimyh slučaĭnyh veličin. [Limit Distributions for Sums of Independent Random Variables]. Gosudarstv. Izdat. Tehn.-Teor. Lit., Moscow-Leningrad, 1949. 264 pp.

This book is based on courses given by the authors at Moscow and Lvov universities. The rate of progress in the theory of probability is illustrated by the fact that almost all of the results in the book have been obtained in the last 15 years (principally by Doeblin, Esseen, Feller, Khintchine, Lévy, and the authors). Furthermore, this book is more than twice as long as Khintchine's older book on the same subject [Limit Theorems for Sums of Independent Random Variables, GONTI, Moscow-Leningrad, 1938].

The first three chapters comprise an introductory section. Chapter I: Probability distributions, random variables, and mathematical expectations. Since only sums of independent random variables are considered, a deep analysis is unnecessary in this chapter. In fact all the results of the book could be stated in terms of distributions and their convolutions, without mentioning measure spaces. However the authors give a brief survey of the measure theoretic foundations of probability, omitting proofs, and making an interesting (but unnecessary, as it seems to the reviewer) restriction on the basic measure space. Probability theory is defined as based on an abstract space of points w, on which a measure is defined, with maximum value 1, which satisfies the following condition: If x is any numerically valued measurable function, that is a random variable, then if A is a linear set, and if $B \supset A$ is open, $\Pr\{x(w) \epsilon A\} = \inf_B \Pr\{x(w) \epsilon B\}$, for every set A for which the left side of the equality is defined. This hypothesis has certain advantages in studying the map of w space on the line, defined by $x = x(w)$. The condition is always satisfied, for example, if w space is a complete separable metric space and if the given probability measure is a completed measure of Borel sets. Chapter II: Distributions in R^n and their characteristic functions. (Proofs are included.) Chapter III: Infinitely divisible distributions. Derivation of the Lévy formula for the characteristic function of such a distribution, with a few heuristic remarks on processes with independent increments.

Chapters IV–VI comprise a second section: General limit theorems. Chapter IV: General limit theorems for sums with independent summands. Concept of (asymptotically) infinitely small summands; conditions necessary and sufficient that their sums, when properly centered and scaled have some, or a given, (infinitely divisible) limiting distribution. Chapter V: Convergence to the normal, Poisson, and unit distributions. Chapter VI: Limit theorems for cumulative

Source: Mathematical Reviews, Vol 12 No. 10

sums (that is for partial sums of a single infinite series). There is a section on unimodular distributions, giving results available as yet only in Russian; for example, the theorem that all limiting laws in Lévy's class L (including all stable laws) are unimodular.

Chapters VII–IX comprise a third section: Summands with a common distribution function. Chapter VII: Principal limit theorems (includes a detailed discussion of stable laws). Chapter VIII: Convergence to the normal law. Noteworthy are the asymptotic evaluations of the error in the central limit theorem, and the proof of the central limit theorem for densities of the approximating distributions. Chapter IX: Local limit theorems for the case of lattice distributions.

This book is an invaluable compendium of the most important work on the subject, and is the more striking because of the general lack of systematic and rigorous texts in probability theory. *J. L. Doob* (Urbana, Ill.).

Source: Mathematical Reviews, Vol No.

GNEDENKO, B.V.

Gnedenko, B. V. On some properties of limiting distributions for normed sums. Ukrain. Mat. Žurnal 1, no. 1, 3–8 (1949). (Russian)

Let $\xi_1, \xi_2, \cdots$ be independent random variables. If for some constants A_n and $B_n > 0$ the distribution function (d. f.) of $B_n^{-1}(\xi_1 + \cdots + \xi_n) - A_n$ converges to a limit and for some constants b_{nk} the variables $B_n^{-1}\xi_k - b_{nk}$ $(1 \leqq k \leqq n)$ converge to zero in probability, then the limit is said to belong to class L. Complete characterization of class L as a subclass of infinitely divisible laws was given by Lévy [Théorie de l'addition des variables aléatoires, Gauthier-Villars, Paris, 1937, p. 192]. It includes all the stable laws. Theorem 1. If $F(x)$ belongs to the domain of attraction of a stable law of exponent α, then for all $\delta < \alpha$, $\int |x|^\delta dF(x) < \infty$. This follows from the necessary and sufficient conditions of Doeblin-Gnedenko (see, e.g., the book cited below). Following Khintchine a d. f. is called unimodal if there exists a real a such that $F(x)$ is convex for $x < a$ and concave for $x > a$. Theorem 2. Every d. f. of class L is unimodal. Even in the case of stable laws this was an unsolved problem. The proof depends on a result of Lapin [1947, in an unavailable dissertation] which states that the convolution of two unimodal d. f.'s is unimodal which in turn depends on Khintchine's characterization of a unimodal d. f. as one for which $F(x) - xF'(x)$ is a d. f. (1938). Now, for a given $F(x)$ of class L, independent, identically distributed random variables ξ_{nk} $(1 \leqq k \leqq n)$ are constructed such that the d. f. of each is unimodal and the d. f. of $\xi_{n1} + \cdots + \xi_{nn} - A_n$ converges to $F(x)$. The convergence is established by Gnedenko's general convergence theorem for infinitely divisible laws. Thus Theorem 2 is proved by Lapin's result and the trivial one that the limit of unimodal d. f.'s is unimodal. All these results are given in §32 of Gnedenko and Kolmogorov, Limit distributions for sums of independent random variables [Moscow-Leningrad, 1949; these Rev. 12, 839].

K. L. Chung (Ithaca, N. Y.).

Source: Mathematical Reviews, Vol 13 No. 10

GNEDENKO, B.V.

Local theorem for stable limit distributions. Ukr.mat.zhur. [1]
no.4:3-15 '49. (MLRA 7:10)
(Probabilities)

GNEDENKO, B. V.

37144. O rabotakh N. I. lobachevskogo po teorii veroyatnostey. V sb: ist.-matem. Issledovaniya. Vyp. 2. M - L., 1949, s. 129-136.

SO: Letopis' Zhurnal'nykh Statey, Vol 7, 1949

GNEDENKO, B. V.

Gnedenko, B. V. - "On the local limit theorem for the case os infinite dispersion", Sbornik trudov In-ta matematiki (Aka. nauk Ukr. SSr), No. 12, 1949, p. 22-30.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

GNEDENKO, B. V.

Gnedenko, B. V. On a local theorem for the region of normal attraction of stable laws. Doklady Akad. Nauk SSSR (N.S.) 66, 325–326 (1949). (Russian)

Let $\xi_1, \xi_2, \cdots$ be mutually independent random variables with a common distribution. This common distribution is supposed concentrated at a set of points of the form $a+kh$, $k=0, \pm 1, \cdots$, where $h>0$ and h is called maximal if it is the maximum number for which this type of representation is possible. Define $P_n(k)=\Pr\{\sum_1^n \xi_j = na+kh\}$. The following theorem is stated:

$$\frac{bn^{1/\alpha}}{h}P_n(k)-p\left(\frac{kh-A_n+na}{bn^{1/\alpha}}\right)\to 0$$

uniformly in k, where $p(x)$ is the density of a stable law with exponent α, if and only if the distribution of $(\sum_1^n \xi_j - A_n)/bn^{1/\alpha}$ is asymptotically stable with density $p(x)$ and h is maximal. This theorem was proved in the Gaussian case ($\alpha=2$) in an earlier paper [Uspehi Matem. Nauk (N.S.) 3, no. 3(25), 187–194 (1948); these Rev. 10, 132]. *J. L. Doob.*

Source: Mathematical Reviews, Vol 10, No. 10

LFH

GNEDENKO, Boris Vladimirovich, 1912 -

KHINCHIN, Aleksandr Iakovlevich, 1894 - jt. au. [Elementary introduction to the theory of probabilities] 2. izd. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1950. 144 p. (51-26250)

GNEDENKO, B.V.

*Gnedenko, B. V. **Kurs teorii veroyatnostei.** [Course in the Theory of Probability.] Gosudarstv. Izdat. Tehn.-Teor. Lit., Moscow-Leningrad, 1950. 387 pp.

This book is intended as a first introduction to probability and statistics. It is written in a clear and concise manner. Radical trimming and streamlining enable the author to discuss in a short space a variety of modern topics. This will greatly increase the usefulness of the book, although it is unavoidable that the beginner will occasionally miss the proper relations between the several parts. The rapid succession of different landscapes leaves no time for the beginner to get familiarized with any one in particular, but this initial bewilderment is counterbalanced by the fact that the book will remain a useful companion even after the first maturing process.

Source: [illegible] Vol 13 No. [illegible]

Source: Mathematical Reviews, Vol 13 No. 6

In the exposition the whole emphasis is laid on the analytical part, and the probabilistic interpretation and background are cut short. Moreover, the book covers only topics which can be expressed in terms of distribution functions. Probability is introduced as a completely additive set function, but this axiomatic background is nowhere used. Strong limit laws are not treated, and the theory of stochastic processes is restricted to transition probabilities and correlations without mentioning the sample functions or the difficulties concerning conditional probabilities.

Chapter 1 (46 pp.) follows the conventional line of discussing [illegible] The modern touch is given by describing the axiomatic setup and the introduction of the simplest problems [illegible] distribution and gives a detailed derivation of the normal approximation to it. Moreover, it introduces the Poisson distribution, and briefly mentions random walk problems. The six pages of chapter 3 are devoted to finite Markov chains, excluding periodic and transient states. Chapter 4 (32 pp.) introduces distribution functions and convolutions, chapter 5 (22 pp.) moments and mixed moments. There follows in chapter 6 (20 pp.) the weak law of large numbers and Kolmogorov's form of the strong law (which, however, is formulated in terms of finite collections of distributions rather than of measure). Chapter 7 (28 pp.) is devoted to characteristic functions in one and more dimensions, Bochner's theorem, etc. Chapter 8 (15 pp.) contains the Lindeberg and Lyapunov forms of the central limit theorem and a special discussion for discrete distributions. No error estimates are given. Chapter 9 (19 pp.) is devoted to infinitely divisible distributions (without mention of stable distributions). Chapter 10 (33 pp.) discusses Markov processes. The two diffusion equations and the corresponding equations for completely discontinuous processes are derived following Kolmogorov and the reviewer. There follows a discussion of processes with independent increments in connection with infinitely divisible distributions and finally Hinčin's representation of the autocorrelation of a stationary process. The last chapter (55 pp.) gives an introduction to statistics. It contains theorems of Glivenkö, Kolmogorov, and Smirnov on empirical distributions, estimation of parameters, the notions of testing statistical hypotheses, and of sequential analysis. A 28 page historical survey and tables conclude the book. The many references to Marx, Engels, Lenin, and Stalin are a deplorable sign of our times.

W. Feller (Princeton, N. J.).

Card 2/2 G.V.

GNEDENKO, B. V.

O edinstvennosti sistemy ortogonal'nykh funktsiy, invariantnoy otnositel'no differentsirovaniya. DAN, 14(1937), 159-162.
O nekotorykh klassakh ortogonal'nykh funktsiy. IAN, Ser. Matem., 10(1946), 197-205.
K teorii predel'nykh teorem dlya summ nezavimykh sluchaynykh velichin. IAN, Ser. Matem. (1939(, 181-232.
O srednem prostoye stankov pri mnogostanochnoy rabote. IZV. Khlopchatobum. promyshl., 11(1934), 15-18.
K teorii oblastey prityazheniya ustoychivykh zakonov. M., Uchen. Zap. UN-TA, 30(1939), 61-82.
Predel'nyye teoremy dlya maksimal'nogo chlena variatsionnogo ryada. DAN. 32(1941), 7-9.
Sur la distribution limite du terme maximum d'une serie aleatoire. Ann. of Math., 44(1943), 423-453.
Predel'nyye zakony summ nezavisimykh sluchaynykh velichin. Uspekhi matem. Nauk, 10(1944), 115-165.
Elementy teorii funktsiy raspredeleniya sluchaynykh vektorov. Uspekhi matem. Nauk, 10(1944), 230-244.
Ocherki po istorii matematiki v Rossii. M. - L., Gtti (1946), 1-248.
Sm. Trudy in-ta istorii estestv., 2(1948).
Rabota nakhoditsya v pechati.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.
Markushevich, A.I.
Rashevskiy, R.K.
Moscow-Leningrad, 1948

GNEDENKO, B. V.

Gnedenko, B. V., and Korolyuk, V. S. Some remarks on the theory of domains of attraction of stable distributions. Dopovidi Akad. Nauk Ukrain. RSR. 1950, 275-278 (1950). (Ukrainian. Russian summary)

This note is meant as an addendum to Chapter 7 of a recent book by Gnedenko and Kolmogorov [Limit distributions for sums of independent random variables, Moscow-Leningrad, 1949; these Rev. 12, 839]. Since this book is unavailable to the reviewer and to most readers, we refer to P. Lévy, Théorie de l'addition des variables aléatoires [Gauthier-Villars, Paris, 1937]. Let $\{x_n\}$ be a sequence of mutually independent random variables with a common distribution function $F(x)$. As is shown in the two texts, in order that there exist sequences A_n and B_n of numbers such that the distribution of the variables $(X_1+\cdots+X_n)B_n^{-1}-A_n$ converges, it is necessary and sufficient that $F(x)$ belongs to the domain of attraction of a quasi-stable law [Lévy, loc. cit., p. 210; the two texts apparently use different terminologies]. The authors give a new necessary and sufficient condition that this be the case. This condition involves the asymptotic behavior of the characteristic function near the origin. They also show A_n can be expressed in terms of B_n.

W. Feller (Princeton, N. J.).

Source: Mathematical Reviews, Vol 13 No. 7

Gnedenko, B. V. The theory of probability and knowledge of the real world. Uspehi Matem. Nauk (N.S.) 5, no. 1(35), 3–23 (1950). (Russian)

This is a politico-philosophical discussion of probability theory. The author makes several references to Marx, Engels, Lenin, Stalin, and the biologist Lysenko. (The latter is quoted as saying, among other things, that science is the enemy of chance.) It is asserted that bourgeois scientists study nature not because such a study is useful, but for the intellectual pleasure it yields: a point of view abhorrent to the author. One of the main points of the paper is the assertion that a mathematician solving a practical problem is responsible not only for the correctness of his deductions, but also for the formulation of the problem. If, in other words, an engineer asks a mathematician for help in solving a differential equation, it is part of the mathematician's duty to verify that he is being asked to solve the right equation. The author regrets the fact that, frequently in the past, Soviet scientists were carried away by their interest in the simplicity of a problem and in the ingenuity of its solution, without paying enough attention to its practical value. As an application of this principle, he expresses remorse at having used Mendel's laws as an illustrative example in his book on probability (written jointly with Khintchine), and he chides his colleagues Glivenko, Kolmogoroff, and Liapounoff for having devoted a few articles to formal genetics and, in particular, to a "proof" of Mendel's laws.

P. R. Halmos (Chicago, Ill.).

Source: Mathematical Reviews, Vol. 11 No. 9

GNEDENKO, B. V.

Gnedenko, B. V.

Gnedenko, B. V. On the domain of attraction of the normal law. Doklady Akad. Nauk SSSR (N.S.) 71, 425–428 (1950). (Russian)

The known necessary and sufficient condition for a distribution function $F(x)$ to belong to the domain of attraction of the normal distribution is shown to be equivalent to the condition that for $t \to 0$ one has $\psi(st)/\psi(t) \to s^2$ for every fixed s where $\psi(t) = \log |f(t)|$ and $f(t)$ is the characteristic function of $F(x)$. For sums of independent random variables the analogous condition requires that $\sum \psi_k(st)/\sum \psi_k(t) \to s^2$. Let the distribution $F(x)$ be a step function with jumps at $\pm nh$ (where h is the largest number with this property), and suppose that $F(x)$ belongs to the domain of attraction of the normal distribution. Then $F^{n*}(x)$ is again a step function, and it is shown that the probability mass at nh is asymptotically given by the variation of the normal distribution over $(n \pm \frac{1}{2})h$. *W. Feller* (Princeton, N. J.)

Source: Mathematical Reviews, 1950 Vol 11 No. 8

GNYEGYENKO, B.V.,

Gnyegyenko, B.V., és Kolmogorov, A.N. Független valószínűségi változók összegeinek határeloszlásai. [Limit distributions for sums of independent random variables.] Akadémiai Kiadó, Budapest, 1951. 256 pp. 32.00 florints.

Translation of Gnedenko and Kolmogorov, Predel'nye raspredeleniya dlya summ nezavisimyh slučaĭnyh veličin [Gostehizdat, Moscow-Leningrad, 1949; these Rev. 12, 839]. The translation is by I. Földes.

SO: Mathematical Review, Vol. 14, No. 3, March 1953, pp. 233-340.

FESHCHENKO, S.F.; HNYEDENKO, B.V., diysnyy chlen.

Estimate of error in asymptotic reduction of integrals of simple linear differential equations with a parameter. Dop.AN URSR no.3:156-162 '51. (MIRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Instytut matematyky Akademiyi nauk Ukrayins'koyi RSR (for Feshchenko).

(Differential equations, Linear)

HNYEDENKO, B.V.

ZADYRAKA, K.V.; HNYEDENKO, B.V., diysnyy chlen.

Solution of linear differential equations of the second order with variable coefficients by Academician S.A.Chalygin's method. Dop.AN URSR no.3:163-170 '51. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Instytut matematyky Akademiya nauk Akademiyi nauk Ukrayins'koyi RSR (for Zadyraka).
(Differential equations, Linear)

ZADYRAKA, K.V.; HNYEDENKO, B.V., diysnyy chlen.

Calculation of eigenvalues and functions in Sturm-Liouville's boundary problem. Dop.AN URSR no.3:171-176 '51.
(MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Instytut matematyky Akademiyi nauk Ukrayins'koyi RSR (for Zadyraka).

(Eigenfunctions)

LEPS'KYY, M.M.; HNYEDENKO, B.V., diysnyy chlen.

Convergence of successive circuits. Dop.AN URSR no.3:177-180 '51.
(MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Kirovohrads'kyy pedahohichnyy instytut (for Leps'kyy).
(Convergence)

GNEDENKO, B. V.

"On M. V. Ostogradskiy's works on the theory of probability," Istor.-Mat. Issled. 4, pp 99-123, 1951. (Russian)

SO: Mathematical Review, Vol. 14, No. 6, pp 523-608, 1953.

KOROLYUK, V.S.; YAROSHEVS'KYY, B.I.; HNYEDENKO, B.V., diysnyy chlen.

Investigation of maximal deviation in two empirical distributions. Dop.AN URSR no.4:243-247 '51. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Artemivs'kyy uchytel's'kyy instytut i Kyyivs'kyy derzhavnyy universytet (for Korolyuk and Yaroshevs'kyy).

(Probabilities)

BYELYAYEV, M.H.; HNIEDENKO, B.V., diysnyy chlen.

Tractrices and pseudosphere in Lobachevskian spaces. Dop.AN URSR no.5:312-319 '51. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hniedenko). 2. Chernivets'kyy derzhavnyy universytet (for Byelyayev). (Spaces, Generalized)

GNEDENKO, B.V.

KORENBLYUM, B.I.; GNEDENKO, B.V., diysnyy chlen.

Theory of convergence in Fourier's series. Dop.AN URSR no.5:320-323 '51. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnedenko). 2. Instytut matematyky Akademiyi nauk Ukrayins'koyi RSR (for Korenblyum). (Fourier's series)

Gnedenko, B. V.

Gnedenko, B. V. Mihail Vasil'evič Ostrogradskii. Uspehi Matem. Nauk (N.S.) 6, no. 5(45), 3-23 (1 plate) (1951). (Russian)

Source: Mathematical Reviews, Vol 13 No. 5

Source: Mathematical Reviews, Vol 13 No. 6

GNEDENKO, B.V.

Gnedenko, B. V., and Korolyuk, V. S. On the maximum discrepancy between two empirical distributions. Doklady Akad. Nauk SSSR (N.S.) 80, 525–528 (1951). (Russian)

Let $(x_1, \cdots, x_n)$ and $(y_1, \cdots, y_m)$ be two collections of mutually independent random variables with a common continuous distribution $F(t)$. Let $F_1(t)$ and $F_2(t)$ be the corresponding empirical distributions and

$$D^+ = \sup \{F_1(t) - F_2(t)\}, \quad D = \sup |F_1(t) - F_2(t)|.$$

Smirnov gave the limiting distributions of the random variables D^+ and D as $n, m \to \infty$. [For new derivations cf. Feller, Ann. Math. Statistics 19, 177–189 (1948); Doob, ibid. 20, 393–403 (1949); Kac, Proc. Nat. Acad. Sci. U. S. A. 35, 252–257 (1949); these Rev. 9, 599; 11, 43; 10, 614]. There is a considerable interest in more precise estimates for finite n, m. The authors show that when $n = m$ and c is an integer, one has the exact distributions

$$\Pr\{nD^+ < c\} = 1 - \binom{2n}{n-c} \div \binom{2n}{n},$$

$$\Pr\{nD < c\} = \binom{2n}{n}^{-1} \sum (-1)^k \binom{2n}{n-kc},$$

the summation extending over $k = 0, \pm 1, \cdots, \pm[n/c]$. For the proof let $z_1, \cdots, z_{2n}$ be the collection $x_1, \cdots, y_n$ ordered according to magnitude and put $\xi_i = +1$ or -1 according as $z_i = x_r$ or $z_i = y_r$. The variables ξ_i determine a random walk, and the theorem becomes merely a restatement of known results concerning the ruin problem. *W. Feller.*

Source: Mathematical Reviews, Vol 13 No. 6

GNEDENKO, B V EPP
.R929 7

VYDAYUSHCHIYSYA RUSSKIY UCHENYY M. V. OSTROGRADSKIY. MOSKVA, IZD-VO ZNANIYE,

1952.

24 P. PORT. (VSESOYUZNOYE OBSHCHESTVO PO RASPROSTRANENIYU POLITICHESKIKH I NAUCH-

NYKH ZNANIY. 1952, SERIYA 2, NO. 50)

RUSSIA

GNEDENKO, B. V.

Elementarnoye vvedeniye v teoriyu veroyatnostey (Eleme:'ary introduction to the theory of probabilities, by) B. V. Gnedenko i A. Ya. Khinchin. Izd. 3. Moskva, Gostekhizdat, 1952. 144 p. tables.

SO: N/5
611.4
.G5
1952

GNEDENKO, B. V.

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Mathematical Reviews
Vol. 15 No. 4
Apr. 1954
History

Gnedenko, B. V. Mihail Vasil'evič Ostrogradskiĭ. Očerki žizni, naučnogo tvorčestva i pedagogičeskoĭ deyatel'nosti [Mihail Vasil'evič Ostrogradskiĭ. Outlines of his life, scientific work and pedagogical activity.] Gosudarstv. Izdat. Tehn.-Teor. Lit., Moscow, 1952. 331 pp. (3 plates). 8.40 rubles.

8/26/54
LM

GNEDENKO, B. V.

Gnedenko, B. V. Some remarks on the papers of O. A. Ilyasenko and I. I. Gihman. Dopovidi Akad. Nauk Ukrain. RSR 1952, 10–12 (1952). (Ukrainian. Russian summary) Statistics

GNEDENKO, B. V.

Mathematical Review,
June 1954
Analysis

10-7-54

Gnedenko, B. V., and Studnev, Yu. P. Comparison of the effectiveness of several methods of testing homogeneity of statistical material. Dopovidi Akad. Nauk Ukrain. RSR 1952, 359–363 (1952). (Ukrainian. Russian summary) 3008

Let $x_1, \cdots, x_n, y_1, \cdots, y_n$ be independent chance variables with the same continuous distribution function (d.f.). Let $S_n(x)$ be the empiric d.f. of the x's, and let $T_n(x)$ be the empiric d.f. of the y's. Define

$$D_n^+ = \sup (S_n(x) - T_n(x)), \quad D_n^- = \sup (T_n(x) - S_n(x)),$$
$$D_n = \sup |S_n(x) - T_n(x)|, \quad R_n = D_n^+ + D_n^-.$$

The authors give without proof: (a) the d.f. of R_n, (b) the correlation coefficient of D_n^+ and D_n^-, (c) a comparison of the variances of D_n^+, D_n, and R_n, (d) the limit of the d.f. of $(\frac{1}{2}n)^{\frac{1}{2}}R_n$, (e) asymptotic formulae for the mean and variance of $(\frac{1}{2}n)^{\frac{1}{2}}D_n^+$, $(\frac{1}{2}n)^{\frac{1}{2}}D_n$, $(\frac{1}{2}n)^{\frac{1}{2}}R_n$, and the correlation coefficient of D_n^+ and D_n^-. A table of some of the quantities described above, for a number of values of n, is included.

J. Wolfowitz (Ithaca, N. Y.).

GNEDENKO, B.V.

Complete orthogonal systems of trigonometric functions. Vop. elem.i vys.mat. no.1:24-34 '52. (MIRA 10:7)
(Trigonometrical functions)

KRASNOSEL'S'KYY, M.O.; HNYEDENKO, B.V., diysnyy chlen.

Approximate computation of natural numbers and functions of disturbed operators. Dop.AN URSR no.3:155-160 '52. (MLRA 6:9)

1. Akademiyi nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Instytut matematyky Akademiyi nauk Ukrayins'koyi RSR (for Krasnosel's'kyy). (Functions)

SHTEYNBERH, A.S.; HNYEDENKO, B.V., diysnyy chlen.

On the best uniform approximation for a system of incompatible linear equations and a method of compensation-gradient corrections. Dop.AN URSR no.3:167-173 '52. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko).
(Approximate computation)

YEZROKHI, T.H.; HNYEDENKO, B.V., diysnyy chlen.

General forms of residual members of certain n dimensional approximation formulas. Dop.AN URSR no.3:174-179 '52. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Kyyivs'kyy politekhnichnyy instytut (for Yezrokhi). (Approximate computation)

LEPS'KYY, M.M.; HNYEDENKO, B.V., diysnyy chlen.

Pseudopolar curves. Dop.AN URSR no.3:186-188 '52. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). (Geometry, Analytic)

LYANTSE, V.Ye.; HNYEDENKO, B.V., diysnyy chlen.

On differential equations in unitary space. Dop.AN URSR no.4:258-262 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. L'vivs'kyy politekhnichnyy instytut (for Lyantse).

(Spaces, Generalized) (Differential equations)

KALYNOVS'KA, S.S.; HNYEDENKO, B.V., diysnyy chlen.

Convergence of middle power Chebyshev approximations for certain interpolated processes in n-measure space. Dop.AN URSR no.4:263-267 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Instytut yelektrotekhniky Akademiyi nauk Ukrayins'koyi RSR (for Kalynovs'ka).
(Spaces, Generalized) (Approximate computation)

HNYEDENKO, B.V.; STUDNYEV, Yu.P.

Comparison of the effectiveness of various methods of proving homogeneity in statistical material. Dop.AN URSR no.5:359-363 '52. (MLRA 6:10)

1. Instytut matematyky Akademiyi nauk Ukrayins'koyi RSR.

(Mathematical statistics)

BRODS'KYY, M.S.; HNYEDENKO, B.V., diysnyy chlen.

Harmonic functions in Baer spaces. Dop.AN URSR no.5:377-380 '52.
(MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Odes'kyy pedagogichnyy instytut im. K.D.Ushyns'koho (for Brods'kyy). (Harmonic functions)

GNEDENKO, B. V.

"Four Sessions (11 Sep-20 Nov 1951) of the Scientific Council of the Institute of Mathematics, Acad Sci Ukrainian SSR," Ukr Mat. Zhur. Vol 4, No 1, pp 104-105, 1952

The following reports were heard: B.V.Gnedenko and Ye. L. Rvacheva, "Certain Problems of Comparison of Two Empirical Distributions," - G.E.Shilov, "Vector-Smooth Functions" (published in Usp Mat Nauk, No 5, 1951). M.A. Krasnosel'skiy and S.G. Kreyn, "Iterational Process with Minimum Residue," 250T52

GNEDENKO,B.V.

Certain properties of the mean deviation. Trudy Inst.mat.i mekh. AN Uz.SSR no.10 pt.1:26-35 '52. (MLRA 8:9)
(Probabilities)

GNEDENKO, B. V.

Gnedenko, B. V., and Rvačeva, E. L. On a problem of comparison of two empirical distributions. Doklady Akad. Nauk SSSR (N.S.) 82, 513–516 (1952). (Russian)

Consider two sets of n independent observations on a random variable with a continuous distribution. Let $F_1(x)$ and $F_2(x)$ be resp. the empirical distributions determined by the first and second set; $D_n^+ = \max_x\{F_1(x) - F_2(x)\}$, $D_n^- = \max_x\{F_2(x) - F_1(x)\}$, $D_n = \max\{D_n^+, D_n^-\}$. Now arrange all $2n$ observations in an increasing sequence $z_1 < z_2 < \cdots < z_{2n}$. Let ξ_i be $+1$ or -1 according as z_i belongs to the first or second set; $S_k = \xi_1 + \cdots + \xi_k$. Then $nD_n^+ = \sup_{1 \le k \le 2n} S_k$, $nD_n^- = -\inf_{1 \le k \le 2n} S_k$. By this ingenious device the problems concerning the discrepancy between the two empirical distributions are reduced to classical random walk problems concerning S_k. Note that all the possible permutations of the ξ_k's, subject to the condition $S_{2n} = 0$, are equally likely so that the problem is to count the number of certain conditioned paths subject always to $S_{2n} = 0$. This is done by the well-known method of reflections (or images). In a previous note Gnedenko and Korolyuk [same Doklady 80, 525–528 (1951); these Rev. 13, 570] applied this method to derive the exact distributions for D_n^+ and D_n. Now the present authors do it for their joint distribution and its limit form. The reviewer remarks that the explicit combinatorial formulas needed for all these cases were given already by Bachelier [Calcul des probabilités, vol. 1, Gauthier-Villars, Paris, 1912, pp. 252–253]. For a recent quotation in easy notations see a paper of the reviewer [Trans. Amer. Math. Soc. 64, 205–233 (1948), pp. 215–216; these Rev. 10, 132].

K. L. Chung.

Source: Mathematical Reviews, Vol 13 No. 8

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GNEDENKO, B.V.

Gnedenko, B. V. Some results on the maximum discrepancy between two empirical distributions. Doklady Akad. Nauk SSSR (N.S.) 82, 661-663 (1952). (Russian)

In addition to the notations used in the preceding review, let $\alpha=[x\sqrt{(2n)}]$, $\beta=[y\sqrt{(2n)}]$. It is shown (local limit theorems) that

$$\sqrt{(2n)}\, P\{D_n^+=\alpha/n\}-4xe^{-2x^2}\to 0;$$
$$\sqrt{(2n)}\, P\{D_n=\alpha/n\}-dK(x)/dx\to 0,$$

where $K(x)$ is the Kolmogorov limit distribution

$$\sum_{k=-\infty}^{\infty}(-1)^k e^{-2k^2x^2},$$

and

$$2nP\{D_n^-=\alpha/n,\, D_n^+=\beta/n\}-\partial^2S(x,y)/\partial x\partial y\to 0,$$

where $S(x,y)$ is the Smirnov (joint) limit distribution. Asymptotic expansions of the distributions for $\sqrt{(\frac{1}{2}n)}D_n^+$, $\sqrt{(\frac{1}{2}n)}D_n$, and $(\sqrt{(\frac{1}{2}n)}D_n^-, \sqrt{(\frac{1}{2}n)}D_n^+)$ are given explicitly up to and including the term in $1/n$. All these results follow easily from the exact formulas obtained in the previous papers [see the preceding review and first reference there].

K. L. Chung (Ithaca, N. Y.).

Source: Mathematical Reviews, Vol 13 No. 5

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GNEDENKO, B.V.

Gnedenko, B. V., and Mihalevič, V. S. On the distribution of the number of excesses of one empirical distribution function over another. Doklady Akad. Nauk SSSR (N.S.) 82, 841-843 (1952). (Russian)

Let $x_1 \leqq \cdots \leqq x_n$ and $y_1 \leqq \cdots \leqq y_n$ be the two sets of observations in the preceding review. Let C_n be the number of x_k, $k=1, \cdots, n$ for which $F_1(x_k-0) \geqq F_2(x_k)$. It is proved that $P\{C_n=k\}=1/(n+1)$ for $k=0, 1, \cdots, n$. Using the same device as above the problem is reduced to one of random walk, namely the number of positive terms in $S_1, S_2, \cdots, S_{2n-1}$. The reviewer remarks that in this form the theorem is equivalent to one given by Chung and Feller [Proc. Nat. Acad. Sci. U. S. A. 35, 605-608 (1949); these Rev. 11, 444].

K. L. Chung (Ithaca, N. Y.)

Source: Mathematical Reviews, Vol 8mw No. 5

GNEDENKO, B.V.

USSR/Mathematics - Distribution, Statistics 1 Jul 52

"Two Theorems on the Behavior of Empirical Distribution Functions," B. V. Gnedenko, Act Mem, Acad Sci Ukrainian SSR, V. S. Mikhalevich, Inst of Math, Acad Sci Ukrainian SSR, and Kiev State U

"Dok Ak Nauk SSSR" Vol LXXXV, No 1, pp 25-27

Considers the 2 sequences $x_1, \ldots, x_n; \ldots, y_m$ of results of independent trials over chance quantities with one and the same continuous distribution function $F(x)$. Designates $S_n(x)$ and $T_m(x)$ as the corresponding empirical distribution functions; and all those points x_k at which the following

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inequality holds $S_n(x_k-0)=(k-1)/n \geq T_m(x_k)$ are called "pos jumps" of function $S_n(x)$. $C(n,m)$ designates the number of pos jumps of $S_n(x)$ relative to $T_m(x)$. Proceeds to demonstrate 2 relevant theorems; uniform distribution of $C(n,m)$ and its measure. Submitted 26 Apr 52.

224T83

GNEDENKO, B.V. [author]; MOLODSHIY, V.N. (Moscow) [reviewer].

About the book of B.V.Gnedenko "Mikhail Vasil'evich Ostrogradskii." Mat. v shkole no.5:74-76 S-O '53. (MLRA 6:9)
(Ostrogradskii, Mikhail Vasil'evich, 1801-1861) (Gnedenko, B.V.)

Mathematical Reviews
Vol. 15 No. 3
March 1954
Analysis

6-24-54
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① Math

Gnedenko, B. V. On the role of the maximal summand in the summation of independent random variables. Ukrain. Mat. Žurnal 5, 291–298 (1953). (Russian) 3

Let η_n, ζ_n, s_n be respectively the maximum, maximum modulus, sum, of the first n of a sequence of mutually independent random variables with a common distribution function F. The possible limiting distributions (properly normalized) of η_n, ζ_n, s_n are known. In the present paper the author proves several theorems on the mutual relations of these limiting distributions, and their relation to F. The following results are typical. (1) If η_n, when properly normalized, has limit distribution function $\exp(-e^{-x})$, then $\int_0^\infty |x|^\delta dF(x) < \infty$ for all $\delta > 0$. (2) If ζ_n, when properly normalized, has the limit distribution in (1) or one of a second specified type, then s_n, when properly normalized, has a normal limit distribution. The possible limiting distributions of properly normalizd η_n, ζ_n when a normalized s_n has a stable non-normal limit distribution, are found. Such results can be generalized by considering the kth largest instead of the largest member in defining η_n and ζ_n, and one such result is stated.

J. L. Doob.

BERMAN, S.D.; HNYEDENKO, B.V., diysnyy chlen.

On one essential condition of isomorphism in integral group-rings. Dop.AN URSR no.5:313-316 '53. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Hnyedenko). 2. Uzhhorods'kyy derzhavnyy universytet (for Berman). (Groups, Theory of)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615510008-5"

GNEDENKO, B.V.

USSR

Gnedenko, B. V. On a work of P. L. Čebyšev not occurring in the complete collected works. Istor.-Mat. Issled. 6, 215-222 (1953). (Russian)

USSR/Mathematics - Probability Oct 53

"Certain Works of Recent Years in the Field of Limit Theorems of Probability Theory," A.N. Kolmogorov

Vest Mos Univ, Ser Fizikomat i Yest Nauk, No 7, pp 19-38

Mentions his and B.V. Gnedenko's Predel'nyye Raspredeleniya dlya Summ Nezavisimykh Sluchaynykh Velichin (Limit Distributions for Sums of Independent Chance Quantities), 1949. Refers to related works of: R.L. Dobrushin (Izv An SSSR, 17, 1953); Yu. V. Prokhorov (Usp Mat Nauk, 8,

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No 3, 1953; DAN SSSR, 83, 1952); D.G. Meyzler, O.S. Parasyuk, and Ye. L. Rvacheva (Dan SSSR, 60, 1948; Ukr Mat Zhur, 9-20, 1949); Ye.L. Rvacheva (Trudy Inst Mat i Mekh An Uzbek SSR, No 10, part 1, 1953); Yu. V. Linnik and N.A. Sapogov (Izv AN SSSR, 13, 1949); S. Kh. Sirazhdinov (Dan SSSR, 84, 1952).

GNEDENKO, B.V.; KHINCHIN, A.Ya.; LEVKOVICH, V.L. [authors]; YAGLOM, A.M. [reviewer].

"Elementary introduction to the theory of probabilities." B.V.Gnedenko, A.IA.Khinchin; "Theory of probabilities." V.L.Levkovich. Reviewed by A.M.IAglom. Sov.kniga no.8:3-5 Ag '53. (MLRA 6:8)
(Probabilities) (Gnedenko, B.V.) (Khinchin, Aleksandr IAkovlevich, 1894-) (Levkovich, V.L.)

GNEDENKO, B.V. [author]; LINNIK, Yu.V. [reviewer].

"Course in the theory of probabilities." Usp.mat.nauk 8 no.3:206-209 My-Je '53. (MLRA 6:7)

(Probabilities) (Gnedenko, B.V.)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615510008-5"

GNEDENKO, B.V.

Two lectures on the philosophy of mathematics. Nauk.zap.Kiev.un. 12 no.6:5-36 '53. (MLRA 9:11)

(Mathematics--Philosophy)

GNEDENKO, B.V., diysniy chlen.

Struggle of materialism and idealism in the field of mathematics. Visnyk AN URSR 24 no.11:27-37 N '53. (MLRA 6:12)

1. Akademiya nauk Ukrains'koi RSR.
(Mathematics--Philosophy)